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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,217	09/26/2002	Cyril Gerard Beck	17MY-7239	8185

27127 7590 02/07/2006

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EXAMINER
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SHEEHAN, JOHN P

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/065,217	<b>Applicant(s)</b> BECK ET AL.	
	<b>Examiner</b> John P. Sheehan	<b>Art Unit</b> 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 November 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112, 1<sup>st</sup> Paragraph***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 to 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

I. In claims 1 and 10, the newly recited minimum aluminum content of 1.6 % does not find support in the application as filed and therefore is new matter. Applicants state that because 1.6 % is within the disclosed range of “greater than 1.5% to 2.3% aluminum” the newly recited aluminum minimum of 1.6% is supported by the application as filed. The Examiner does not agree in the applicants have not cited specific support for the specific end point chosen by applicants and now recited in the claims, MPEP 2163.05, Section III.

II. In claims 7 and 17, the newly recited limitation, “the sum of aluminum and titanium being 3.7% to 3.8%” does not find support in the

Art Unit: 1742

application as filed and therefore is new matter. Applicants appear to infer that the original claim language "about 3.75%" supports this newly recited range. The Examiner does not agree in that applicants have not cited specific support for the specific end points now chosen by applicants and now recited in the claims, MPEP 2163.05, Section III.

III. In claim 7, the newly recited limitation, "1.7% to 1.8%" does not find support in the application as filed and therefore is new matter. Applicants appear to infer that the original claim language "about 1.75%" supports this newly recited range. The Examiner does not agree in the applicants have not cited specific support for the specific end points newly chosen by applicants and now recited in the claims, MPEP 2163.05, Section III.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 to 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (Wood, US Patent No. 4,810,467, cited by the applicants in the IDS submitted September 26, 2002).

Wood teaches castable and weldable nickel-based alloys for use in gas turbine nozzle applications (column 1, lines 6 to 10) as recited in applicants' claims 1 to 10 and particularly claims 5, 6, 8, 9 and 10. Wood teaches an alloy composition containing the same element components as recited in the instant claims in proportions which, with the exception of the aluminum proportion, overlap the applicants' claimed proportions (column 4, Table 2, the column entitled, "Acceptable Melt Chemistry Range"). It is noted that the applicants' claimed proportions for Co, W, Cb and Ta are exactly the same as Wood's preferred proportions for these elements (column 4, Table 2, the column entitled, "Preferred Melt Chemistry Range"). Regarding the aluminum proportion, the instant claims recite an aluminum proportion of "1.6% to 2.3% aluminum" (claim 1, line 3 and claim 10, line 3) and "1.7% to 1.8%" (claim 7, line 3) while Wood teaches aluminum content of 0.5 to 1.5% (column 4, Table 2, the column entitled, "Acceptable Melt Chemistry Range"). Wood teaches that the strength of the alloy is dependent on the amount of gamma prime forming elements (Al+Ti+Ta+Cb) present in the alloy (column 3, lines 25 to 30) and that to have the necessary strength the alloy should contain about 28 volume percent the gamma phase (column 3, lines 35 to 40) which gamma content is encompassed by applicants' claim 4.

Wood and the claimed invention differ in that Wood does not teach all the exact same proportions, teaches a slightly higher Al content and does not teach the process recited in applicants' claim 3.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because Wood's alloys, as

Art Unit: 1742

explained above, have the same utility, the same phase structure and proportions that with the exception of the Al content are either the same as or overlap the instant claims. With respect to the Al content it is the Examiner's position that applicants' claimed Al proportion of "1.6% to 2.3% aluminum" (claim 1) and "1.7% to 1.8% aluminum" (claim 7, line 2) closely approximate Wood's upper Al content of 1.5% and are so close that one would have expected Wood's alloys and the claimed alloys to have the same properties, *Titanium Metals v. Banner*, 227 USPQ 773 and MPEP 2144.05.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the [element name] content taught by the reference and the claimed [element name] are very similar and closely approximate each other, therefore one of ordinary skill in the art would have expected the alloy taught by the reference and the instantly claimed to have the same properties. See *in re Peterson*, 65 USPQ2d 1379, 1382, citing *Titanium Metals Corp. v. Banner*, 227 USPQ 773, 779 and MPEP 2144.05.

"a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir.1985)(Court held as proper a rejection of a claim directed to an alloy of "having 0.8%nickel,0.3%molybdenum,up to 0.1%iron,balance titanium " as obvious over a reference disclosing alloys of 0.75%nickel,0.25%molybdenum,balance titanium and 0.94%nickel,0.31%molybdenum,balance titanium.).

With respect to the process steps recited in applicants' claim 3, it is the Examiner's position that one of ordinary skill in the art at the time the invention was

Art Unit: 1742

made would have considered the invention to have been obvious because the process limitations recited in the instant product by process claims do not necessarily lend patentability to the claimed product, MPEP 2113.

3. Claims 1 to 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw (US Patent No. 4,039,330).

Shaw teaches castable nickel-based alloys for use in gas turbine applications (column 1, lines 5 to 7 and column 7, lines 10 to 15) as recited in applicants' claims 1 to 20 and particularly claims 5, 6, 8, 9, 10, 15, 16 and 18 to 20. Shaw teaches an alloy composition containing the same element components as recited in the instant claims in proportions that overlap the applicants' claimed proportions (column 1, lines 45 to 59). Shaw teaches that the sum of the titanium and aluminum proportions should be from 4 to 6.5% (column 2, lines 11 and 12). Shaw's lower limit of 4% for the total of titanium and aluminum the closely approximates the instantly claimed upper limit of 3.9% (e.g., claim 1, lines 4). Shaw teaches that the strength of the alloy is dependent on the co-presence of Al, Ti, Ta and Cb (column 2, lines 4 to 10).

Shaw and the claimed invention differ in that Shaw does not teach all the exact same proportions, does not teach the process steps recited in applicants' claims 3 and 13 and is silent with respect to the presence of the gamma phase recited in claims 4 and 14.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because Shaw's

Art Unit: 1742

alloys, as explained above, have the same utility and proportions that overlap the instant claims and therefore are considered to establish a prima facie case of obviousness, *In re Malagari*, 182 USPQ 549 and MPEP 2144.05. Further, in view of the fact that Shaw's alloys overlap the instantly claimed, that is, are similar to the instantly claimed alloys, Shaw's alloys would be expected to possess all the same properties as recited in the instant claims including the presence of the gamma phase, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' *In re Spada*, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

With respect to the process steps recited in applicants' claims 3 and 13, it is the Examiner's position that one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the process limitations recited in the instant product by process claims do not necessarily lend patentability to the claimed product, MPEP 2113.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the



Art Unit: 1742

unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1 to 10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 to 10 of copending Application No. 10/065,225. Although the conflicting claims are not identical, they are not patentably distinct from each other because each of these two sets of claims is directed to a castable weldable nickel based alloy containing the same elements and, with the exception of the Ti proportion, in proportions that overlap. With respect to the Ti proportion the instant claims recite "1. 6% to 2.4% titanium" (see

Art Unit: 1742

instant claim1, line 3) while the claims of 10/065,225 recite "about 0.4% to about 1.5% titanium" (See '225, claim 1, lines 3 and 4, emphasis added by the Examiner).

The instant claims and the claims of '225 differ in that these two sets of claims do not recite the exact same proportions for each of the elements and the instant claims recite "1. 6% to 2.4% titanium" while the claims of '225 recite a titanium content of "about 0.4% to about 1.5% titanium" (emphasis added by the Examiner).

However one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because applicants' use of the word "about" in defining the titanium content as "about 0.4% to about 1.5% titanium" (emphasis added by the Examiner) in the claims of '225 reads on titanium contents of greater than 1.5% and therefore does not distinguish over the titanium content of "1. 6% to 2.4% titanium" recited in the instant claims. In view of this the alloy composition recited in these two sets of claims are considered to overlap and therefore the claims of '225 are considered to establish a prima facie case of obviousness, *In re Malagari*, 182 USPQ 549 and MPEP 2144.05.

Further, even if the claims of '225 were amended to delete the term, "about", with respect to the titanium proportion one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the titanium proportion in these two sets of claims are so close that one would have expected the alloys claimed in these two sets of claims to have the same properties, *Titanium Metals v. Banner*, 227 USPQ 773 and MPEP 2144.05.

Art Unit: 1742

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Response to Arguments***

3. Applicant's arguments filed November 11, 2003 have been fully considered but they are not persuasive.

4. Applicants state that they;

“believe that nothing in Wood suggests that Wood's alloy would be acceptable with an aluminum content of at least 1.6% (claims 1-6 and 10) or at least 1.7% (claims 7-9).”

Applicants, citing case law, further state that;

“the courts require that the prior art must suggest the desirability of increasing the aluminum content of Wood to something above 1.5%”

Applicants' argument is not persuasive in that the Examiner's rejection is not based on any statement in Wood regarding whether or not Wood's alloy would be acceptable

“with an aluminum content of at least 1.6% (claims 1-6 and 10) or at least 1.7% (claims 7-9).”

Nor is the rejection over Wood based on the desirability of increasing the aluminum content of Wood's alloy. Rather, the Examiner's rejection is based on the principle as set forth in the cited case law and MPEP 2144.05, that the claimed alloy and Wood's alloy have compositions that closely approximate each other and therefore one of

Art Unit: 1742

ordinary skill in the art would expect to claimed alloy and Wood's alloy to have the same properties. See *in re Peterson*, 65 USPQ2d 1379, 1382, citing *Titanium Metals Corp. v. Banner*, 227 USPQ 773, 779 and MPEP 2144.05.

“a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of “having 0.8%nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium” as obvious over a reference disclosing alloys of 0.75%nickel, 0.25% molybdenum, balance titanium and 0.94%nickel, 0.31% molybdenum, balance titanium.).

Applicants' statement that;

“one skilled in the art would not expect Applicants' and Wood's compositions to have the same properties”

is not persuasive in that applicants have not provided any evidence to support their position. “It is well settled that unexpected results must be established by factual evidence. Mere argument or conclusory statements in the specification do not suffice.” *In re Deblauwe*, 222 USPQ 191, 196 (Fed. Cir. 1984). Mere lawyer's arguments and conclusory statements in the specification, unsupported by objective evidence, are insufficient to establish unexpected results.” *In re Wood, Whittaker, Stirling and Ohta*, 199 USPQ 137, 140 (CCPA 1978).

Applicants' argument regarding the fact that in the cited case law, *Titanium V. Banner*, the claimed alloy was between two closely spaced levels of the disclosed by the prior art is not persuasive. Nowhere in *Titanium v. Banner* nor in MPEP 2144.05,

Art Unit: 1742

cited by the Examiner as basis for the rejection, is it stated that basis for the courts' decision was the fact that the claimed alloy fell between two example alloys taught by the prior art. Rather, the court said;

"The proportions are so close that prima facie one skilled in the art would have expected them to have the same properties"

Titanium Metals v. Banner, 227 USPQ 773, 779.

Regarding Shaw, applicants argue that;

"Applicants' independent claims instant claims 1, 10, 11 and 20 require an upper limit of 3.9% for the sum of aluminum and titanium, while dependent claims 7 and 17 now require an Al+Ti of 3.7% to 3.8%. In contrast, Shaw requires an Al+Ti content of 4% to 6.5%."

This is not persuasive in that the lower limit of 4% for the sum of aluminum and titanium taught by Shaw closely approximates applicants' claimed upper limit of 3.9% as recited in independent claims 1, 10, 11 and 20 and 3.8% as recited in dependent claims 7 and 17, therefore one of ordinary skill in the art would expect the claimed alloy and Wood's alloy to have the same properties. See *in re Peterson*, 65 USPQ2d 1379, 1382, citing *Titanium Metals Corp. v. Banner*, 227 USPQ 773, 779 and MPEP 2144.05.

"a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir.1985)(Court held as proper a rejection of a claim directed to an alloy of "having 0.8%nickel,0.3%molybdenum,up to 0.1%iron,balance titanium" as obvious over a reference disclosing alloys of 0.75%nickel,0.25%molybdenum,balance titanium and 0.94%nickel,0.31%molybdenum,bal

ance titanium.).

Applicants then argue that Shaw does not teach any example alloy having the sum of titanium and aluminum greater than 4%. The Examiner is not persuaded. The teachings of a reference are not limited to merely that which is set forth in the examples. Instead "[a] reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art", see MPEP 2123 and In re Widmer, 147 USPQ 518, 523 (CCPA 1965). In this case, a complete reading of Shaw discloses an alloy that, as previously stated, closely approximates the instantly claimed alloy and for the reasons previously stated establishes a prima facie case of obviousness.

Applicants', again citing case law, argue that;

Finally, Applicants again believe that the prior art must suggest the desirability of decreasing the Al+Ti content of Shaw to Applicants' range of 3.9% and less.

The Examiner is not persuaded. The rejection over Shaw is not based on the desirability of increasing the sum of titanium aluminum content of Shaw's alloy. Rather, the Examiner's rejection is based on the principle as set forth in the cited case law and MPEP 2144.05, that the claimed alloy and Shaw's alloy have compositions that closely approximate each other and therefore one of ordinary skill in the art would expect to claimed alloy and Shaw's alloy to have the same properties. See *in re Peterson*, 65 USPQ2d 1379, 1382, citing *Titanium Metals Corp. v. Banner*, 227 USPQ 773, 779 and MPEP 2144.05.

"a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have

Art Unit: 1742

expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir.1985)(Court held as proper a rejection of a claim directed to an alloy of "having 0.8%nickel,0.3%molybdenum,up to 0.1%iron,balance titanium " as obvious over a reference disclosing alloys of 0.75%nickel,0.25%molybdenum,balance titanium and 0.94%nickel,0.31%molybdenum,balance titanium.).

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

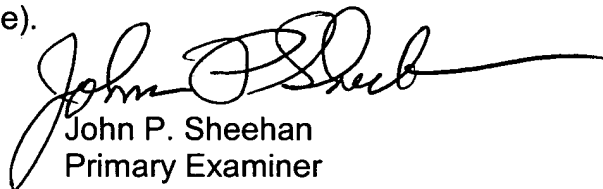
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

Art Unit: 1742

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John P. Sheehan  
Primary Examiner  
Art Unit 1742

jps